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LUCULLUS
THE FOOD OF THE FUTURE

TO-DAY AND TO-MORROW

*For a full list of this Series see the end
of this Book*

LUCULLUS

The Food of the Future

BY

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AND

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THE FOOD OF THE FUTURE

When a work of one of our pessimistic prophets was persuasively placarded about London by a poster proclaiming that " No clothes ", " No churches ", " No marriage ", was part of the predicted programme for the future, there was an important omission in the proposed prohibitions ; a logical corollary on the list of social annihilations would have been " No dinners ", for the sharing of food plays an integral part in all forms of civilization ; but as that presumably

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would not have made a popular appeal to the imagination of anybody, it was not flaunted in the faces of the patient public. However, those who were allured into reading the book itself learned that the food of the future, according to the dismal vision of that particular seer, is to consist of a chemical substance resembling blanc-mange, a dispiriting uninspiring notion in which it is difficult to discover even unnatural merits.

It may safely be hypothecated that the Lucullus of the future will be Demos. Material luxury that is not democratized will not survive. In these electric days of swift developments, revolutionary social changes outrun opinion. We have the phenome-

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non of current phrase and prejudice lingering behind the facts, oblivious that they refer to obsolete conditions. In the span of one lifetime the luxuries of the rich become the necessities of the poor. Consider, for instance, white bread, bananas, and bathrooms.

The problem of Lucullus in our present state of civilization is—"What shall we have for dinner?" but if our civilization progresses much further in certain directions, the problem facing the Lucullus of the future will be more picturesque and more primitive; in fact, the problem of whether there will be any dinner at all.

There are three methods of existence mankind can adopt, and all of

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them depend upon his method of providing himself with food.

He can follow his food supply from place to place, as he does when he lives as a hunter upon animal food, chasing it from day to day ; or as he does when he lives a nomadic life, when it is the grass or fodder for his flocks and herds he has to follow, migrating either from oasis to oasis, or from the plains to the hill for the summer pasture.

Or he can settle down in one place and lead an agricultural life, producing his own food, and, by exchanging the surplus in centres which become markets and towns, incidentally producing the craftsman, the artist, the merchant, and the trader.

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Or he can adopt the fashion our civilization has taken to, and live in cities and buy food, paying for having it brought to him ; if necessary transported from the other side of the world.

The last method is utterly dependent upon the peoples who continue to live agriculturally, demanding the products of the urban peoples, demanding them continuously, and conceding to these products the value placed upon them by those who manufacture them.

There are several tendencies of the day clearly discernible, all of them bound to affect the food supplies of the future if they all persist. Some of them are incompatible with each other. In their present stages the world is

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rich enough for them all to progress together, side by side, like trains on different lines, but, as the lines converge, it will be interesting to see what happens when they meet and clash, as meet and clash they must if they all continue in their present directions.

The main line tendencies are briefly these :

1. the tendency of our civilization towards democracy ;
2. the tendency of our democracies to collect into cities ;
3. the tendency of our collections of city-bred people to regard city life as normal ;
4. the tendency of those who regard city life as normal to believe that by statute law they can hold dominion

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over all other laws—natural, supernatural, or economic.

The branch lines of these main tendencies bear the following mental traffic :—

a. the centralization of human activities and acquiescence in mass production ;

b. the delegation of political responsibility to the many ;

c. the delegation of industrial responsibility to the few ;

d. the almost universal point of view of life in terms of mechanism.

An inhabitant of a civilized city is already regarding it as right and normal, (‘ natural ’, in fact) for water, light and heat to be brought directly

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into his house without any effort on his part, from unknown, unvisualized sources ; for his streets to be lit, paved, cleaned and guarded without his assistance being requisitioned ; while food is merely something to be bought—chosen and bought in shops.

Lucullus, whether he lives in Mayfair or Whitechapel, Golders Green or Glasgow, Cardiff or a Fenland village, has at his choice and command lamb from New Zealand, beef from the Argentine, tea from China or Ceylon, bacon and cheese from America or Denmark, rice from India, fresh tropical fruit from Jamaica and South Africa, dates and figs and grapes, oranges and nuts all the year round, apples from as far afield as Australia

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and California, salmon from Canadian rivers, cod coloured pink and called salmon from the seven seas, bread from Chicago wheat. Probably never before was such a large variety of foods so plentifully in the market for such a large proportion of the population. All Lucullus asks about his food supply is that it shall be cheap. He regards food simply as a consumer, naturally and inevitably ; and if it can be bought cheaply enough already cooked, he does so.

For Demos is acquiring the restaurant habit from Midas. There is money to be made by catering for Lucullus in surroundings of imitation splendour, with veneered marble walls, decorations of paper orchids, and a jazz

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band to distract his attention from the quality of the food or to drown the cries of the distressed.

But before food can be bought or eaten it must be produced, and Lucullus buying bananas off barrows at every street corner, and feeding the baby on tinned pineapple, regardless of the opinion of Infant Welfare Societies, is not interested in the production of food—not in the least interested. Eggs and milk he regards as convenient foods ; but to him a hen is a bird that crows all night, lays an egg or two a day, and pecks about picking up its own living like the city sparrows, when it is not lying conveniently plucked and trussed on the shelves of provision dealers. Cows, to urban dwellers, are

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animals of a lethargic disposition, decorative objects in a landscape, but perilous of approach ; if they see one being milked they are aghast at the slow primitive nature of the process.

To the city dweller the word " production " conveys the idea of something artificially made by machinery in factories. He is accustomed to swift and mechanical results, and he is accustomed to regular hours and wages. But nature is a capricious employer, knows nothing of statute law, maintains a strict detachment about a living wage, and has no notion of conforming to the requirements of an eight-hour day. Nature is alternatively generous or niggardly. Weeds are blacklegs which work overtime.

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Fishing, hunting, shepherding, are more complicated callings than tending machines. The demand machinery makes is merely on the material plane; the machine worker needs mechanical skill, physical strength, and the use of the physical senses. A machine has no will, no moods, no nerves; it cannot suffer or be frightened; it does not call forth from man the spiritual or moral qualities demanded by creatures—kindness and compassion, patience or self-sacrifice. The city dweller's life is conditioned by machinery, and to-day eighty-six per cent. of the inhabitants of Great Britain live in towns. In the United States of America over fifty per cent. of the population live in towns, as compared

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with twenty-five per cent. forty years ago.

Consequently the trend of the popular thought of the day is to reflect the point of view of the city dweller ; for his edification or entertainment are books written and newspapers produced ; for his comfort is life organized, for his benefit legislation devised, and to produce more of him is the object of our educational system.

One of the oddest results of our centralization in England is that nowadays, instead of great cities being dependent upon the agricultural districts of the country for their food

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supplies, it is the villages of the agricultural districts that are dependent upon the great cities. A greengrocer's shop in a Yorkshire dale village in August will be full of potatoes, tomatoes, plums, cucumbers and beans, and every bag and basketful will have come by rail from Covent Garden ; the village grocers' shops all over the country are full of Danish butter, American bacon, and tinned fruits from the other side of the world. When a snowstorm blocks the roads, or a strike cuts communications, the villages lack not only tea and sugar, but bread and bacon.

The great towns have become not only the heart of the nation, but its stomach. And the dwellers in the

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towns blandly continue to produce machinery by machinery, more and more machinery. The towns are gigantic workshops, but they are not producing food, they are merely buying and distributing it ; and it is an important " but ", because in the last resort workers cannot eat their tools ; engines, motor-cars, steel girders, electrical apparatus, brass fittings, agricultural machinery and drain pipes are neither digestible nor nutritious.

Our food supply depends upon the balance being kept between the urban and agricultural populations of the world, and we are doing our utmost to disturb that balance, not only directly by sowing the seeds of direct democratic propaganda broadcast, (our

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town-made, town-bred brand of democracy), but indirectly and inadvertently, casually, by the psychological effect of what we make to offer in exchange for food. A cabbage or a pound of rice does not rouse in the heart of the London child a desire to emigrate to Cornwall or China to grow cauliflowers or cultivate rice; theoretically it might do so, but as a matter of fact it does not. If he wishes to travel in China it is for reasons not even remotely connected with rice pudding. But the stuff we offer in return for tea and sugar, mutton and wheat—the machinery and products of machinery, the toys of our town-bred populace, the gramophones, cinemas, motor-cars, etc., have in them values that do alter

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the values in the minds of those peoples living under agricultural conditions. Theoretically perhaps it ought not to, but in point of fact it does. We call it civilization, but it is merely urbanization. Obviously the process of exchanging machines for food cannot continue indefinitely, or illimitably, or infinitely, because machines and tools, iron tubes and steel girders, last longer than the food that is consumed in exchange for them. The agricultural nations can exist indefinitely without any of the things we send them in exchange for their surplus food, and the inhabitants of Birmingham or Middlesbrough could not exist three weeks without food. For the agriculturist who produces food produces all the

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other necessities of his life as a bye-product of his industry—wool, hides, wood for building, straw for thatching his houses, draught animals for power and transport, etc , his cycle of necessities is complete But the artisan of the town, manufacturing gas engines or iron railings, does not produce a mouthful of food as the bye-product of his industry

So if our urban civilization continues to produce machinery by machinery to saturation point, to a point that disturbs the balance of the occupations of the world, our urban civilization will burn itself out like a forest fire For the balance might so easily, so tranquilly, and so quickly be upset In Great Britain, of the

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total number of people employed, only 7 per cent. are employed in agriculture. The number has dwindled from twelve per cent. to seven per cent. in a lifetime, and while the agricultural workers have decreased, the number of men employed in the metal trades has nearly trebled ; forty years ago the numbers were 900,000, now the numbers are 2,500,000.

Now the staple foods of Europe, America, and the nations that derive from European races, are wheat, bacon, dairy produce (including milk, butter and cheese), and sugar. The consumption of other foods, other cereals, meats, fruits and vegetables, is small compared with the figures of these four items. The staple food of Asia is rice,

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and Asia is preponderantly agricultural. China is the most populous country in the world, and over eighty per cent. of its population is agricultural. But China is certainly rich in coal and iron, and probably has oil fields too. If a few of China's eight hundred millions of people left off cultivating their own rice, and took to manufacturing iron and steel and machinery, and to competing in the wheat and meat markets for the foods of the Western nations, the balance *would* be upset. The prices of foods would go up, and the value of the machinery products would go down. And there is nothing to stop them from doing so.

Our democratic, highly organized industrial population, which either

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cannot or will not, or at any rate does not produce food, merely agglomerates and distributes it, is living in a hygienically drained, steam-heated, electric-lighted mansion, with a wolf in the basement.

Mankind, when his social life is organized on nomadic, pastoral, or agricultural lines, is threatened with famine (and famine in the real sense, not a mere food shortage or inconvenience, but death by starvation) when the production of food fails, either on account of drought, floods, disease, or some natural phenomenon, and such societies survive by acquiring the wisdom to store reserves of foods to tide them over such calamities. But our form of civilization is

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threatened with famine from two other sources of danger, as well as a series of bad harvests. We are in danger of starvation when our elaborate system of distribution is interrupted or interfered with either by warfare, external or internal, military or industrial, or by a really effective transport strike ; or even by a shortage of something that is not usually associated with food in the popular imagination : coal, for instance, or oil, steel, rubber ; there are so many essential cogs in the wheels of the machinery that transports our food from the prairies of the world to the back streets of Battersea or Clydeside. Our civilization is so complicated that a crisis in one trade has unforeseen reactions

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in unexpected directions ; the threads are so closely interwoven that an alteration in one corner of the pattern brings changes far away where no one would have suspected a connecting link (For instance, years before the war the increased taxes on beer sent up the price of London milk, not because those who habitually imbibed large quantities of beer relinquished their favourite beverage and competed with the baby for the milder refreshment purveyed by the dairies—though it is a pity to spoil such a pretty picture if any idyllic mind has conceived it—but because the cost of the brewer's grains for cattle food was raised to the dairy farmers)

And another potential source of

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famine is the financial factor in our civilization. If, through some economic or political reason we could not continue to pay for our food, it is extremely unlikely that other nations would go on keeping us alive for the sake of our beautiful eyes. In fact, although as we draw our food from all quarters of the world we are only remotely at the mercy of natural forces (though a world shortage of essential foods would affect us), we are not at all remotely at the mercy of economic and political forces ; we live in peril of our own wills and waywardnesses without any widespread recognition that, compared with agricultural civilizations, we are at a disadvantage. Incidentally, as the General Strike May 1926 proved,

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it is futile for an industrialized democracy to carry out a revolution by physical force—there is no food for them to fall back upon unless the essential services of the State are functioning.

Man is, on the whole, a practical being, and although his choice of food is regulated partly by sentiment, custom or fashion, partly by personal, national or racial idiosyncrasies, sometimes by piety in obedience to the rules of a religion, sometimes by fear by compliance with the advice of scientists, the general rule governing mankind's universal habits is a simple one—he eats whatever he can get.

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Although most scientific works upon food and diet are written upon the assumption that man's health depends largely upon what kind of food he chooses to consume, the ultimate fact is that his existence depends upon what he can get, and still more vitally upon whether he can get anything at all ; because if he can't he need not worry about his health, he won't be there to have any health to cause him anxiety.

One social-political remedy most eloquently advocated by those who prescribe for all the ills and dangers and discontents of the period is the ' Back to the land ' nostrum. Earnest philanthropists and politicians continually urge the population to spread out, or beseech municipal authorities

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to spread the population out, and it is being done more or less. Suburbs and dormitory towns are being spread out like jam on bread ; rows of little villas, pavements, and concrete roads replace fields and lanes, farms and market gardens, but the process doesn't produce more food. If the inhabitants of the little houses have room in their gardens for more than the baby's perambulator and the dust-bin, they grow geraniums and a calceolaria. If they salvage space for a recreation ground from the encroaching tide of streets, they plant aspen trees round it and iron railings. If there is a piece of waste land by the railway waiting to be built over, it may be turned into allotment gardens until somebody

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comes and erects a factory on it for manufacturing tennis racquets or incandescent gas mantles. Our suburban population is not helping to produce food ; it is merely complicating the question of its distribution. And the hybrid populations are not being agriculturalized or pastoralized. They are only urbanizing the ground they cover. They are preventing it from being used to cultivate wheat, potatoes and cabbages, in order that they may produce whatever it is they are producing.

The expression ' mass production ' is used nowadays like a magic formula with which to conjure away all difficulties. It has come to stay. The

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quarrel of the Capitalists and the Communists is over the disposal of the pecuniary profits of the system ; neither side suggests abolishing the system itself, and, largely on grounds of economy, its extension on all sides is advocated, whether it is particularly appropriate or not.

The experiment of communal kitchens will almost certainly be tried ; private enterprise has started them here and there, and apparently they pay ; they will be extended. Then dwellings will be built without kitchens, as houses are now built without laundries, and then when they have been established they will be bad, or expensive, or both, like the laundries. Food cooked in large quantities may or may

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not be wholesome, but it is not so good as food cooked for a small number of people at a time.

And there is a point beyond which ' mass production ' is extravagant and wasteful.

Another point for the pessimist is the waste involved in our city civilization. First of all, we waste water. We waste it in several ways—by polluting the rivers ; by wasting the rainfall ; and thirdly by recklessly using the water brought at great expense from rivers and watersheds many miles away.

We also waste food. An American calculation quoted in *The Economics of*

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a Food Supply (W. O. Hedrick) is that from 30% to 40% of perishable food is wasted on the way from producer to consumer. Dr. Savage, in the Milroy Lectures for 1923, published by the Cambridge University Press, mentions that in 1920 in four areas in London alone (the Port of London, Bermondsey, Southwark, and Stepney), the waste of condemned canned meat was 1,364,272 lbs., which, calculated at a value of a shilling a pound, represents over £68,000. Waste products in a town are an expensive nuisance and a dead loss ; in the country the waste is usually not absolute ; animals can be fed on spoiled crops, and the land itself will gratefully consume decayed matter as manure.

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The modern optimist who expects the worst but hopes to be dead before it arrives, brightly suggests electricity as a solution of the food problem of the future. Electricity may do much to cut the knots we are getting tied up into, by decentralizing many of our activities ; by enabling fruit and vegetables, meat and fish to be preserved, bottled, tinned, frozen or dried where it grows, instead of being first assembled in distant places and then re-distributed. But can electricity grow grapes on thistles, and regulate the weather ?

At this point the chemist or biologist begins to promise that science will invent synthetic foods in the laboratories that can be produced in

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factories, not the patent foods we know, which are merely forms of wheat or cereals, or milk or malt, dried, preserved, or put up in factories, merely prepared from the natural supplies of the raw material ; but forms of food actually produced from inorganic materials. But although the dream of feeding the world on artificial flour, artificial fats, and synthetic foods in general, has been a favourite phantasy of scientists for some generations past, it is not yet practical. Man is an adaptable animal ; he can live in any climate on almost any diet ; rice, or oatmeal, or potatoes, or shell fish, birds' nests or whale blubber, frogs or snails or puppy dogs' tails, or even, at a pinch, upon his neighbours,

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his enemies, or his grandparents. In fact, from one point of view it doesn't much matter what a nation has to eat, so long as it gets enough of whatever it is it does eat. But it can't eat imitation food, and although it is possible for chemists to unite the known inorganic ingredients that make up many natural foods, the results when they are not actually poisonous cannot be assimilated.

Of course, there is no knowing what horrors scientists may not perpetrate in the future, but there is equally no knowing when the endurance of mankind will reach breaking point. It is conceivable that if the scientist is "slow to realize that it is his destiny to turn good into evil", to quote

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the author of *Daedalus*, the majority of mankind will have discovered the fact first. Mr. J. B. S. Haldane thinks "that the tendency of applied science is to magnify injustices until they become too intolerable to be borne, and the average man whom all the prophets and poets could not move turns at last and extinguishes the evil at its source." It is not clear that he is foretelling that the average man, in his war of self-defence, will begin by slaying the scientists, though that method has the merits of simplicity, swiftness and sureness, and is at least as likely to be adopted as any other, if the average man is sufficiently weaned from what these same philosophers regard as the weakness of

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“taking traditional morality too seriously.”

But before the scientists have succeeded in sapping the foundations of the sanctions upon which their own existence depends, or before we are shaken back to barbarism by demonstrations of the powers of some new inventions to bring our civilization crashing in dusty ruins about our ears; in short, before the scientists have stimulated society into exterminating them, there are one or two difficulties in the way of civilization enjoying existence which they may reasonably be requested to resolve.

Will the Lucullus of the future be a toothless valetudinarian dining off a tabloid of artificial protein, chemical

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lemonade, and an injection of strychnine? Will he have to relinquish his fetiches of white bread and strong tea? Will he deteriorate into a savage fighting for bananas with his brother barbarians? Possibly, unless he conquers himself faster than he conquers nature.

Prophesying is a perilous if pleasant pastime, because mankind refuses to behave with the consistency displayed by obliging factors in mathematical problems. In arithmetic books, when it is stated that "4 men can walk 14 miles in a six-hour day," in return for which information the reader is expected to state how many days it

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will take them to walk from London to York, it is always taken for granted they they will continue steadily on their course till the end of their journey. The student is not expected, when making his calculations, to guess how many of them will be run into by a lorry, nor to make allowances for any of them quarrelling or changing their minds, getting tired and going home, or finishing the journey by train, or meeting a friend who tells them that Lincoln Cathedral is finer than York Minster, and persuading some of them to alter their course and see that instead, or hiring a car and getting stopped by the police for driving dangerously—in fact he is not expected to take into consideration any of

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the things that occur to any moderately intelligent child as being likely to happen in real life. Some prophets seem to forget that outside mathematical and economic text books human beings have vagaries, but—or therefore—it is possible that upon some distantly future date Professor Lucullus, F.R.S., may broadcast something remotely resembling the following lecture :—

“ In the middle of the twentieth century the world became vegetarian. It has been commonly assumed that the reasons were economic ; that the practice was adopted because land produced more food under arable cultivation than when used merely for grazing, and that the

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hungry world could no longer afford the space for herds of cattle and sheep, but the recent discoveries of a printed volume in the excavations that have taken place among the ruins of the London Houses of Parliament, that lie between the river Thames and the Benedictine Abbey of Westminster, prove that the law prohibiting the consumption of animal food was passed at the instance of people described as Vegetarians, apparently one of the many curious religious sects that flourished about that time. These Vegetarians succeeded in imposing their creed upon the centralized, highly organized civilization of their day by compulsion. The slaying

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of animals for food was categoried as a crime, as was the murder of human beings. (This, of course, was before the time when the penal code was temporarily abolished.) Apparently the change was quite easily brought about. The Vegetarians carried out a systematic campaign in the schools, and found it quite easy to make most children sentimental about animals when living, and not difficult to arouse in them a horror of devouring them when dead ; but of course it is also easy to make some children sentimental about plants and flowers. So when the majority of the people had reached the stage of shuddering with disgust at the mere idea of

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eating such succulencies as lamb or roast duckling, there arose a hypersensitive minority who shrank with a greater refinement from the grossness of eating young carrots or green peas. So these superior souls, having made it illegal for their fellow mortals to dine off boiled beef, were themselves in the position of finding it impossible to dine off boiled turnips. It was their simple pantheistic creed that every little blossom that blows enjoys the air it breathes, and they published pamphlets to prove the cruelty of cutting off young cauliflowers in their prime, and wrote lyrical laments over lettuces. The 'Lay of the Lost Lettuce,' which has survived, is

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typical of other verses of less literary merit ; the author pointed out that as lettuces, if allowed to flower and seed and find self-expression in the full development of all their powers, lost some of the qualities for which they are valued in salads, it was the custom to massacre them when they were young and tender, and the poem was a passionate protest against the brutality of the proceeding. The Neo-Vegetarians considered ripe fruit a permissible article of diet if gathered from the ground after the trees had no further use for it. But even this was a matter of controversy, because they insisted upon the limbs of the trees being spared the mutilation of the pruning

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knife, and the trees tended on these humane principles do not seem to have grasped what was expected of them, and instead of gratefully producing luxuriant crops of more luscious fruit, they took to evolving backwards and reverting to wilder ways, and producing smaller and less sweet fruit. Then the Neo-Vegetarians split over the question of the dietary of plants; one set claimed that plants were not strict enough in their own diet, and the laureate of the day complained, in archaic metre, that 'vines have gross tastes that turn a poet pale.' As by this time the political axiom — 'the minority are always right' — was firmly established, the Neo-

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Vegetarians in their turn imposed their will on the world.

Now the victory of the Vegetarians had some untoward results. Some ages before them Isaiah had pointed out the scientific fact that 'All flesh is grass.' Of course cows and sheep are machines for turning grass not only into meat, milk, butter and cheese, but also into wool, horn and leather, so that when the world gave up eating beef and mutton it had to give up boots and blankets too. Of course it does not kill a sheep to shear it, but while there were flocks of sheep about the Government found it impossible to stop ill-conditioned lawless people from supplying themselves with roast

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mutton. The only way of enforcing the law was to stop sheep-breeding altogether, and this was done. Each town was allowed to keep a few sheep and cows in their Zoological gardens, and a few were kept wild in the parks for ornament.¹

The people complained that imitation wool and imitation leather did

¹ It is doubtful if men ever quite stopped eating animal food, because we have the curious information that in London and other cities everyone kept large quantities of dogs. They paid licences for the privilege, and as there were no sheep for them to herd and no game for them to hunt, the obvious surmise is that the inhabitants kept them for food. It is difficult to imagine what other use they can have put them to. It is of course possible that they venerated them for superstitious reasons, and kept them as mascots to bark, either to scare away the spooks the spiritualists were apparently raising in considerable number about this time, or with the idea of averting the calamity of strikes.

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not wear so well and was not so warm and comfortable as the old-fashioned natural productions of their youth, but the scientists assured them it was good for their health, and of course in those superstitious days the credulous people believed everything the scientists told them, in spite of the fact that each generation of scientists told them something quite different from what their predecessors had preached. For instance, at the beginning of the twentieth century scientists talked a great deal about the ether, built up elaborate hypotheses upon its supposed properties ; then they discovered that there was no ether at all, that the Victorian scientists had ingeniously

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invented it. Again, first they proved that interstellar space was incredibly cold, then they proved it was unpleasantly hot ; and other instances of their shifting and conflicting theories of the universe will readily recall themselves to your minds.

Of course, if it had not been for the scientists the Neo-Vegetarians could not have prevailed, because it was the scientists who invented artificial feeding stuffs.

You must remember that this was in the latter part of the twentieth century, before scientists were under any sort of control. Strange as it may seem to us, the scientists were allowed to invent exactly what they

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liked, and to carry out any experiments they liked, quite regardless of whether the results would be welcome or beneficial. Earlier in the century they had invented poison gas, and that was allowed ; in about 1943, in experiments on the atom, scientists blew up the whole of North-west London ; it simply disappeared in a cloud of dust and fire. There was a question asked in Parliament about it, by the Member for North St. Pancras or Hampstead, who was left without a constituency, but beyond that nobody complained, nobody seems to have objected. No less than fourteen similar explosions took place that year, due to the same cause. Wigan, Leeds, Paisley, Crewe,

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Blackpool, South Shields, Darlington and Kidderminster were some of the principal places that were exploded, and there was a long correspondence in the *Times* on the subject ; but nothing was done.

The history of the next decade is obscure, because at the time the heavy tax was first put on paper, and few records were made or have survived. But the views of the Neo-Vegetarians and a series of strikes organized by the International Agricultural Workers Union, which stopped natural food production or harvesting for a year, created a demand for an alternative diet, and the scientists supplied this. Fortun-

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ately the secret has been lost, but we imagine it to have been compounded of cellulose, alcohol, some unknown bacteria, and tin. But it is only fair to say there is a dispute over the exact significance of the expression 'tinned foods', some scholars holding the view that as it is older than the Neo-Vegetarians, the foods may have been merely contained in tins and not actually constructed of the metal. We know that cellulose and alcohol were among the ingredients, because out of these was artificial silk made, and the Government commandeered the artificial silk factories when the food question became serious ; and besides, we have the indirect evidence con-

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tained in the nursery rhyme that has survived :—

There was a young lady of Pinner,
Who got thinner and thinner, and thinner,
Although three art silk frocks
And six pairs of socks
Were all made into soup for her dinner.

Precisely what species of bacteria or fungus was used to make the cellulose and inorganic substances digestible is uncertain, but we do know that the scientists succeeded in cultivating and domesticating some new or unknown varieties, for one of these—bacteria or fungi, or an unlucky hybrid mixture of both—was induced to feed upon metal, upon iron, and steel and brass ; this proved a practical means of feeding

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human beings upon matter they had not hitherto been able to assimilate at all, and was therefore a commercial proposition. But ultimately the discovery had disastrous results, for the germ or spore or microbe, or whatever the organism was, multiplied with such extreme rapidity that it soon got out of control and spread like a corroding blight and contagious disease over every metal. It destroyed every metal it came in contact with, behaved like dry rot in wood, leaving a powdery mass of decay in its wake. It destroyed pipes, tubes, the steel frames of buildings, spread from town to town along the railway lines, eating them up as it went, with engines and all

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machinery ; wherever it appeared destruction swiftly followed. It did incalculable damage and practically ruined the steel industries and the allied metal trades. There is no doubt now that these artificial foods were unpopular, but they had their day. A treasured possession of the Bodleian is a menu of a Guildhall Banquet held in 1989. This is the fare :

Potage Bacteria .017

Soufflé Caoutchoux

Craie rôti à l'armidon

Charbon sauté

Crème d'argile.

We to-day cannot realize how our ancestors can have contentedly con-

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sumed coal, chalk, and chemicals, and it is thought that the quaint custom of writing the constituent parts of a meal in French arose at this time because things like rubber and steel filings sounded better, more appetising in a foreign language than in plain English. The scientists were not unanimous in their approval of this food ; the medical profession were divided in their opinions ; some doctors held that some of the diseases prevalent at the time were due to acute indigestion, and though they successfully performed the operation of grafting ostrich gizzards into human beings to aid the digestive glands, the operation never really became fashionable, nor did the

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patients often live long enough to derive much benefit from it. There is little doubt that the diet was not popular, and that the masses were discontented and irritable. That probably accounts for the widespread movement in favour of the legislation of 2026.

That was the year when the noteworthy attempt was made by a Scottish scientist at Glasgow to get into communication with Mars. Theoretically the gigantic electro-magnet employed at that University should, when focussed on to Mars and galvanized, have attracted the planet out of its orbit and drawn it near enough for the broadcasting station at Aberdeen to get into touch with

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the inhabitants; but presumably something went wrong at the critical moment, for it was Glasgow that was torn up by its roots and whisked up to Mars. As communication has not yet been established, we are quite unaware of what the inhabitants of Mars thought of Glasgow when they got it.

The news caused a sensation in Edinburgh. A public meeting was held and a note of condolence passed; a resolution suggesting that an effort be made to forward it to Mars was not carried. Possibly the mishap would have had no further consequences but for the fortuitous circumstance that a majority of the adult male population of Glasgow lived

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not in the place of their birth, but in London and other parts of the world, and their voice was raised in disapprobation ; and there is little doubt that if the scientists had not anticipated matters by forming themselves into a corporation to regulate the scope of their own activities, some drastic legislation would have been passed to curb them, for Glasgow was considered to be rather an important place. Anyway, that was the origin of the great reform movement. From that time, instead of the world being at the mercy of the scientists, it is the scientists who have to submit their discoveries to the careful scrutiny of their board of Censors,

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and any scientist who does not obtain their ' *Nihil obstat* ' for their experiments is debarred from access to any laboratory.

But after all, we do owe those old scientists, benighted as they were, a debt of gratitude. In the dark days of the twentieth century, in our temperate climate there was only one harvest in the year. Nowadays, thanks to the fact that we can replenish the fertility of the soil as soon as one crop has exhausted it, and because, by the simple expedient of harnessing the tides we can both light and warm the earth in the autumn and winter months, we can get three harvests during the year—May, August and November.

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We are no longer dependent upon the centralized system under which our forefathers starved. Those of you who heard my last lecture will remember that the people of the twentieth century succeeded in organizing themselves to such a peculiar pitch that practically everything was standardized and centralized. Their food was made in gigantic factories and distributed from large supply centres, like the water, heat, light, clothes, music, pictures, education, news, and information of every description. Once a day the Government rations of food were delivered by the Post Office, neatly packed in cartons ; each one was numbered, and returned empty in exchange for

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a full one. There was something to be said for the system ; the food, what there was of it, was equally distributed, the quality, such as it was, was of the same standard for everyone, or alleged to be. It was delivered already prepared, the recipient had merely to eat it if he could, which was very convenient for him ; if he could not there was no redress, which was very convenient for the Government. When the system worked it had certain merits, but sometimes it did not work. Every time there was a strike among the people in the factories who made the food, or among the people who prepared it, or who packed it, or who distributed it,

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or who kept the machinery in the factories cleaned and repaired, or who were in control of the machinery that supplied the power and the light, or who were in any of the other services ; in fact, every time there was a strike at all nobody got any food till it was all over, because organization had reached such a point of perfection that when one man in one department or trade struck work, all the other people in all the other departments and trades struck work too, and the food supply got held up. Everything else got held up too, of course, but the food mattered most. Attempts were made to prohibit strikes among the food supply workers, but the workmen's

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leaders argued that it was the only effective weapon they had, because nobody minded being deprived of their Government allowances of anything else. They wouldn't have minded being deprived of their Government rations of food if they could have got anything else to eat, but the food supply was a Government monopoly.

It is amusing to wonder what our ancestors in the twentieth century would have said if they could have looked forward through the years and seen the improvements we have made by the simple expedient of making our scientists concentrate upon a few essentials. In those

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days the Thames in London was a dirty river ; its turgid water was befouled with all sorts of refuse. And other rivers were as bad. There were no fish of any description to be caught from the London bridges and embankments, not even salmon. In 1927, Londoners would have stared to see a 40 lb. salmon landed at the embankment by Blackfriars Bridge. I do not know if there were any carp in the Manchester Ship Canal in those days ; I fancy not. And although London and other cities had trees growing in them, they could not grow, as we do, fruits of all kinds, and spices. Of course London had Covent Garden, but how

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much fruit was actually grown there is a matter of speculation. My learned colleague, who holds the Chair of Botany, thinks that oranges and bananas were cultivated there ; my own view is that the Garden merely grew potatoes. There were also private suburban gardens, but the only plants the inhabitants seem to have had any idea of growing were laurel bushes, privet hedges, and geraniums. It is rational to assume that they *did* eat them ; why else should they have taken the trouble to grow them ? for a laurel bush is not as beautiful as our apple trees or vines, it has not the fragrance of a fig tree, nor has a

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privet hedge the charm of a row of orange trees.¹

They had trees, of course, but if you will believe me, they were principally plane trees and other inedible forest trees. And how they managed to prepare the leaves of these plants to make them palatable we have no idea ; that is one of the many secrets those strange people of the twentieth century carried with them to their graves. In attempts to solve the mystery we have tried stewing them in butter, making tea of them with boiling water, drying

¹ Possibly geraniums grew wild in the soil and could not be eradicated. We also find some reference in the gardening literature of the time to 'plantains on the lawn', and of course these may have been a species of banana —on the other hand, they may not.

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them and pounding them to powder, but they are detestable whichever way you try them. It is possible that they may have been grown for some medicinal purposes.

At any rate, they wasted their space as recklessly as they wasted water, wind, light and heat. Of course wireless was in its infancy. The only thing they had much idea of broadcasting was sounds and signs ; they couldn't transmit power, hence the clumsy device of preparing food in large quantities in central districts and feeding people in bulk. Nowadays, when the wireless transmits the power from the Victoria Nyanza or the Brahmaputra all over the world, and we have heat, light

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or power at our own will, we cannot understand how people managed without it.

Mirrors of course they had, but they seem to have been mere toys ; they certainly had not discovered the means of using them to preserve light, though some time towards the middle of the twentieth century it seems that mirrors were used in gardens to reflect and distribute the sunlight and moonlight evenly to plants and vegetables, but it was in an experimental stage. They may have known the powers of the delta rays of the moon, or they may not.

At the end of the nineteenth or beginning of the twentieth century

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they had only cultivated for food about three hundred species of plants out of 140,000 known varieties. Their flavours were limited to a few spices and fruits, and hardly any flowers. Even such obvious delicious flavours as lilac, carnations, and lilies were unknown to them ; they knew them by scent, not taste. Of course we have many fruits and vegetables unknown to them as food, and a large number of fungi. The only birds they had domesticated for their egg-laying qualities were hens and ducks, geese and turkeys. Ostriches they prized for their feathers ! Considering what a very substantial meal an ostrich egg is, it is quite astonishing that they

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did not think of inducing the birds to lay all the year round like runner ducks.

But that was a wasteful age. Wind power they wasted ; water they wasted, and the amount of fish they wasted by neglecting to train the fish to take even elementary care of their young must have been colossal. We don't know when this last beneficent work was started, but in the twentieth century we find the significant title 'Lord Beatty of the North Sea ', and it is surmised that the honour may have been bestowed upon him for some pioneer protection work on behalf, perhaps, of the plaice

The waste of water was serious,

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of course, as it led to various wars. The War of the Mountains, as it was called, was simply a prolonged battle between the Midland towns of England and the towns of the Welsh coast for the water supply of the Welsh mountains.

Above all, they seem to have wasted sound. It must have been a terribly noisy age ; either they had no notion of the scientific value of silence, or they were ignorant of the fact that their machines, some of which made a din that would have deafened a dinosaur, were producing vibrations that were going to waste.

Now that we have learned that sound and light are alternative

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aspects of the same phenomenon, and now that we have learned to turn sounds into light, and to preserve light, life is more peaceful. And of course its effect upon our food supply is fundamental. We are as careful over feeding the plants that nourish us as we are over feeding the animals we eat.

But I'm afraid there is no doubt that we are greedier than our ancestors. They were thirstier than we are, probably because they didn't eat nearly enough fruit ; and they drank spirits instead of wine (regardless of the fact that intoxication was illegal) probably because they had not the stimulus sufficient light provides. But certainly gluttony is

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our failing ; so much so, that there is an agitation going on to make over-eating a statutory offence. It is an ugly insidious vice, and leads to terrible deterioration both of physical health and moral character.

Probably too much honour is paid to Professors of the Culinary Art. Our remote ancestors, who left cooking to the uneducated, must have been a hardy spartan race, and it is a pity we cannot emulate their simple unsophisticated virtues".

Here we may leave Professor Lucullus smiling upon us from afar with the serene superior sympathy with which posterity perenially contemplates the past. May he dine in peace !

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